

Work Order ID 141020

Tuesday, January 26, 2016 3:18:40 PM

646.3313
B141020
REV. N/C3

141020

Page 1

Item ID: 646.3313

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Upper Guide

Start Date: 1/26/2016 Start Qty: 12.00

12

Cust Item ID:

Required Date: 1/26/2016 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals:

Process Plan: MJS

Date: JAN 28 2016

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
646.3300	N/C3								

100

0.00

100

BAND SAW

Bandsaw

Memo

0.05

Jeaspa Bandsaw

Cut Blank at 13.500"

*** ONE BLANK MAKES TWO PARTS***

9 0 DAS 20 16-04-10

110

0.00

110

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.69

HAAS CNC vertical machine #1

1-Machine per folio FB152

DWG REV: D/C

FOLIO REV: AA

2- deburr and break all sharp edges

18 0 DAS 20 16-04-11
9-89 16/04/12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Work Order ID 141020

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141020

Page 2

Item ID: 646.3313 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Upper Guide
Start Date: 1/26/2016 Start Qty: 12.00 ***12*** Cust Item ID:
Required Date: 1/26/2016 Req'd Qty: 12.00 ***12*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC2- Inspect parts off machine FAI/FAIB	0.00							DAS 20 9-89
120						18	2		16-04-11
QC	Memo	0.00							
Quality Control									
130	QC8- Inspect parts - second check	0.00							DAS 14 9-89
130						18	2		16/04/18
QC	Memo	0.00							
Quality Control									
140	Outsource process-Anodize per QSI017 4.1.10.1	0.00							DAS 13 9-89
140						18		APR 21 2016	
Outsource4	Memo	0.00							
Outsource process - Anodize	Issue P/O to ATG : <u>32124</u>								
	1- Black Anodize as per Dwg 646.3300								
	2- PRIME AS PER DWG, SEE NOTE #2								
	Certification of Comformity is required								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : ☐			

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Page 3

Item ID: 646.3313 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Upper Guide
 Start Date: 1/26/2016 Start Qty: 12.00 ***12*** Cust Item ID:
 Required Date: 1/26/2016 Req'd Qty: 12.00 ***12*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Receive & Inspect for Damage & Mat'l Certs	0.00							
150									
Packaging	Memo	0.00							
Packaging									
155	QC5- Inspect part completeness to step on W/O	0.00							
155									
QC	Memo	0.00							
Quality Control									
180	Identify as per dwg & Stock Location <i>ccf059</i>	0.00							
180									
Packaging	Memo	0.00							
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***								

18x 8016-04-26

18 **DAS 38 9-89**
APR 26 2016

18 **APR 27 2016**
DAS 6 8-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 141020***141020***

Page 4

Tuesday, January 26, 2016 3:18:40 PM

Item ID: 646.3313

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Upper Guide

Start Date: 1/26/2016 Start Qty: 12.00

12

Cust Item ID:

Required Date: 1/26/2016 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.00

Quality Control

MCS APR 27 2016

MCS APR 27 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : ☐					

Picklist Print

Tuesday, January 26, 2016 3:18:39 PM

Page 1
1

Work Order ID: 141020

141020

Parent Item: 646.3313

646 3313

Parent Item Name: Upper Guide

Start Date: 1/26/2016

Required Date: 1/26/2016

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP REV:A NEW ISSUE 12/11/14 JFS VERIFY BY: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M7075T6B5.000X0.375		Purchased	No			100	f	17.4930	0.563	7.111579			DAS
M7075T6B5 000X0 375									**	10.583'			20
7075-T6 BAR 5.000" X 0.375"												9-89	16-04-10

Location

Loc Qty

Loc Code

MAT005

17.493

m133215

5.453

m133550

12.04

134285

10.583'

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
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Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

INDUSTRIES, INC.

DWG NO. 646.3300

PREPARED BY J. SOTO

DATE: 12/08/2014

EFFECT ON DWG
☐ INC. ☒ UNINC.

APPROVED BY: ENGR. *[Signature]*

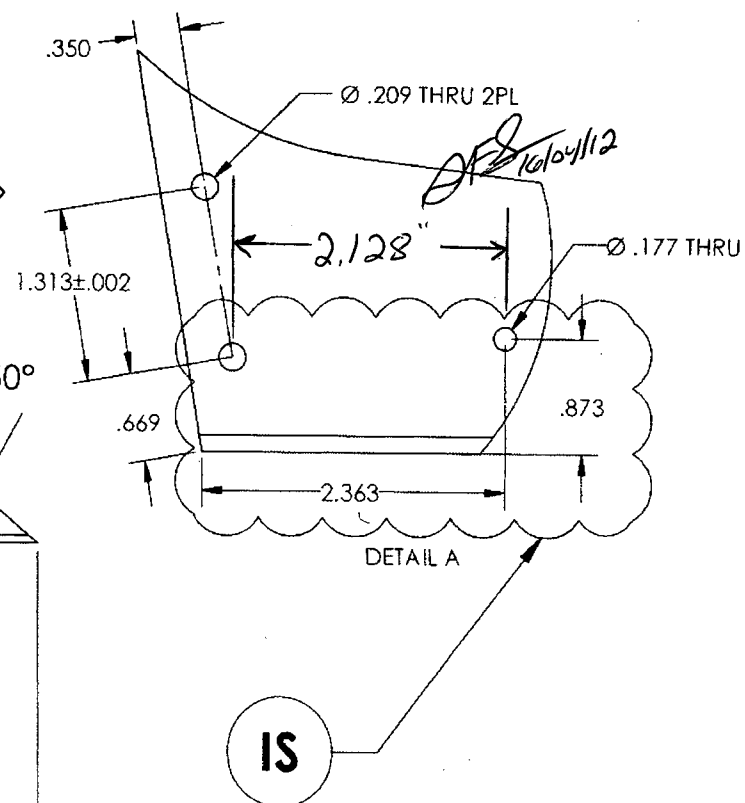
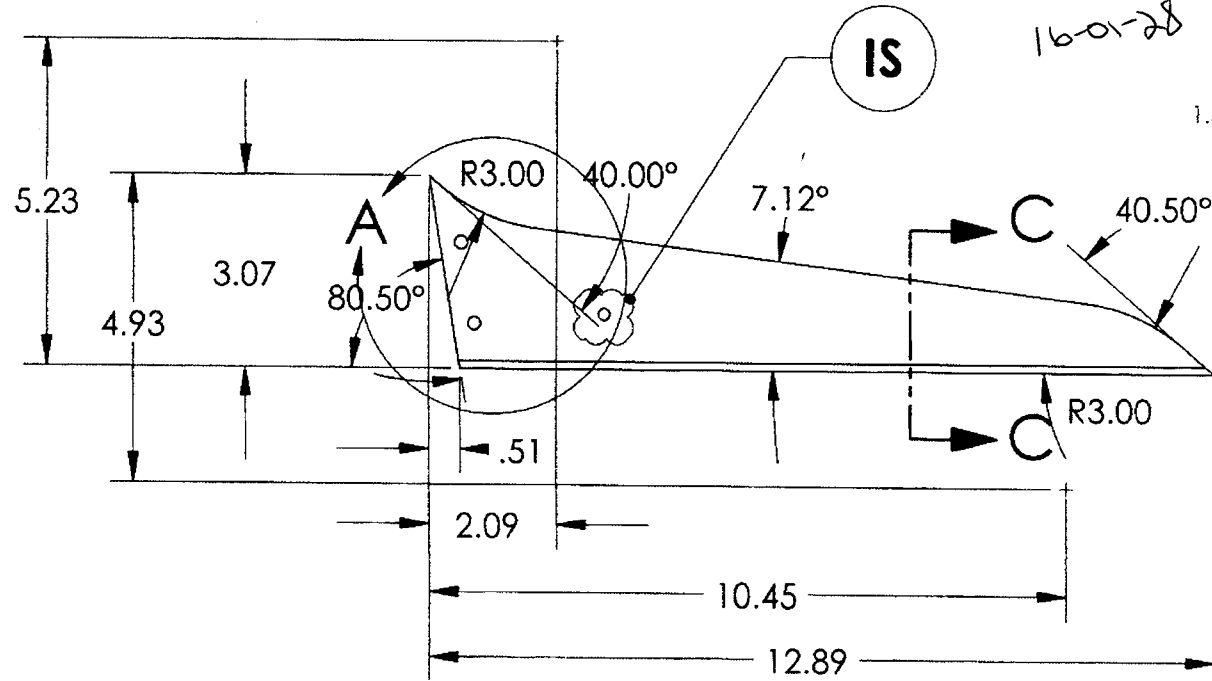
MFO *David Baker*

QC

EFF.	NEXT ORDER
------	------------

REASON: ADDED HOLE DIMENSION TO 646.3313.

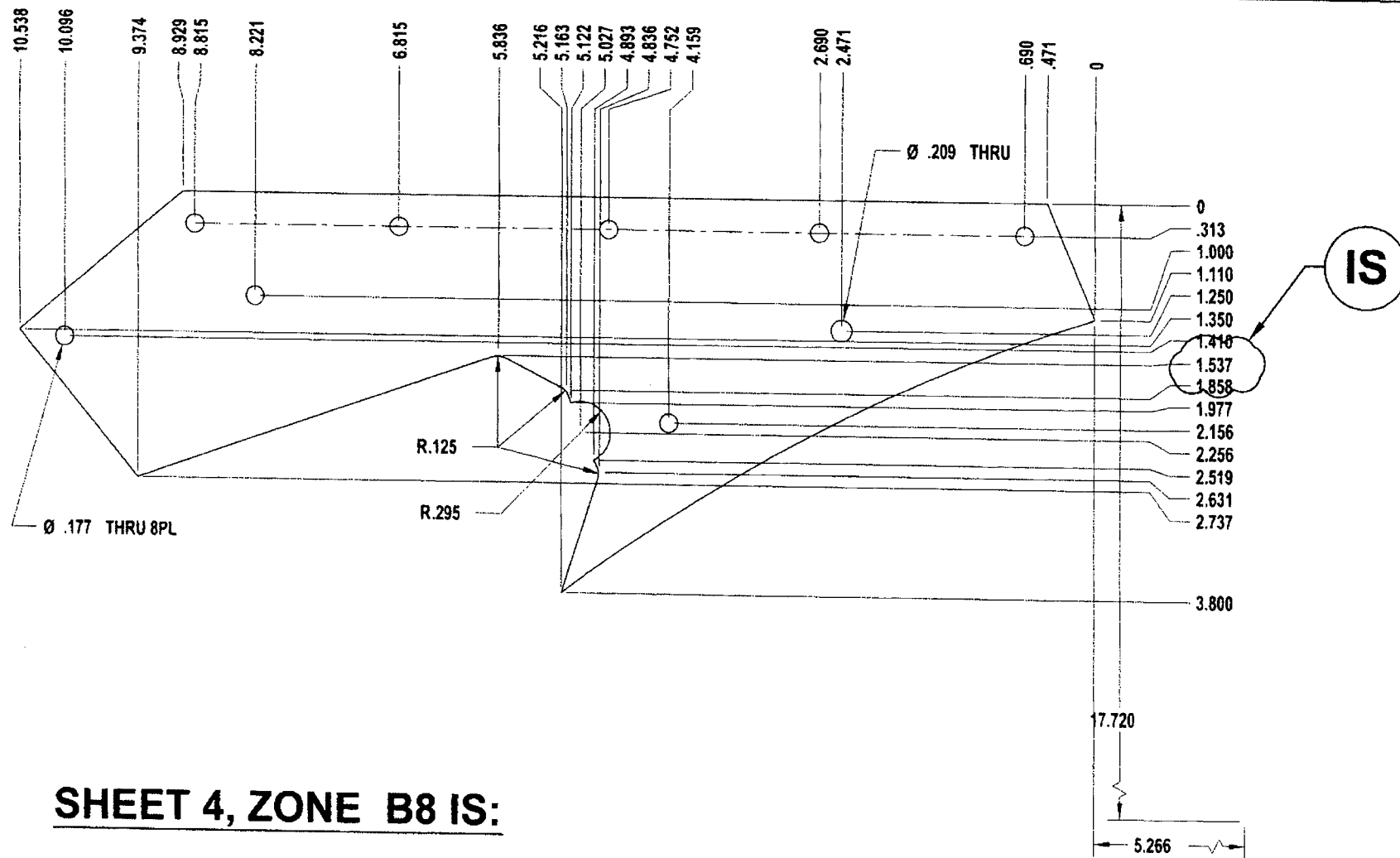
STOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO ALL NOTICES
WITHOUT NOTICE
WORK ORDER
10-141020-MC



☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

☐ MAJOR ☒ MINOR☐ YES ☒ NO ;

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03724				SHEET 1 OF 1	
	DWG NO. 646.3300	REV: N/C	PREPARED BY B. PETERS	DATE: 12/05/12	EFFECT ON DWG ☐ INC. ☒ UNINC.	
	DWG TITLE: UPPER CUTTER ASSY					
APPROVED BY: ENGR <i>[Signature]</i>		MFG <i>[Signature]</i>		QC <i>[Signature]</i>	EFF: NEXT ORDER	
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: REVISED ORDINATE DIMENSION.				ECR: D-12-025



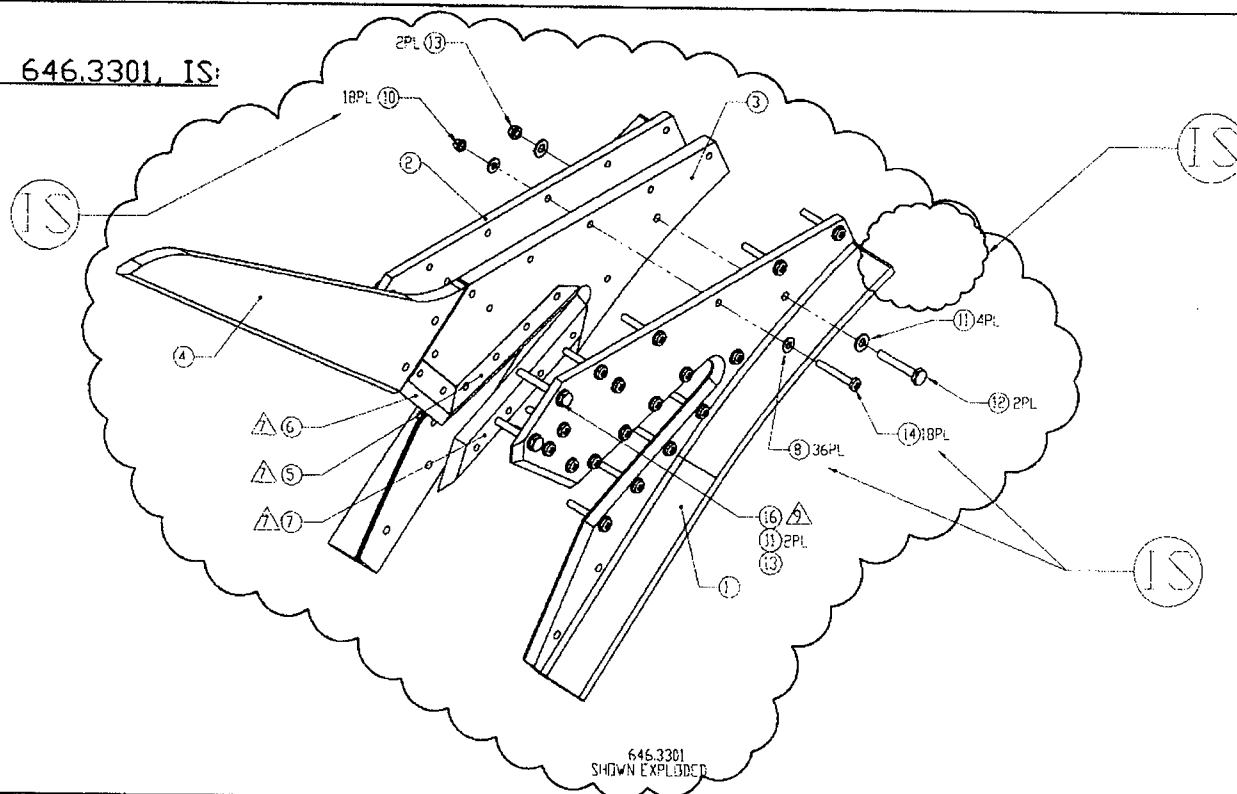
SHEET 4, ZONE B8 IS:

DOCUMENTS EFFECTED:	☐ RFMS ☐ MDL ☐ INSTALL INSTRU ☐ ICA ☐ BOM	CHANGE CATEGORY	DER REVIEW REQUIRED
		☐ MAJOR ☒ MINOR	☐ YES ☒ NO

APICAL
INDUSTRIES, INC.

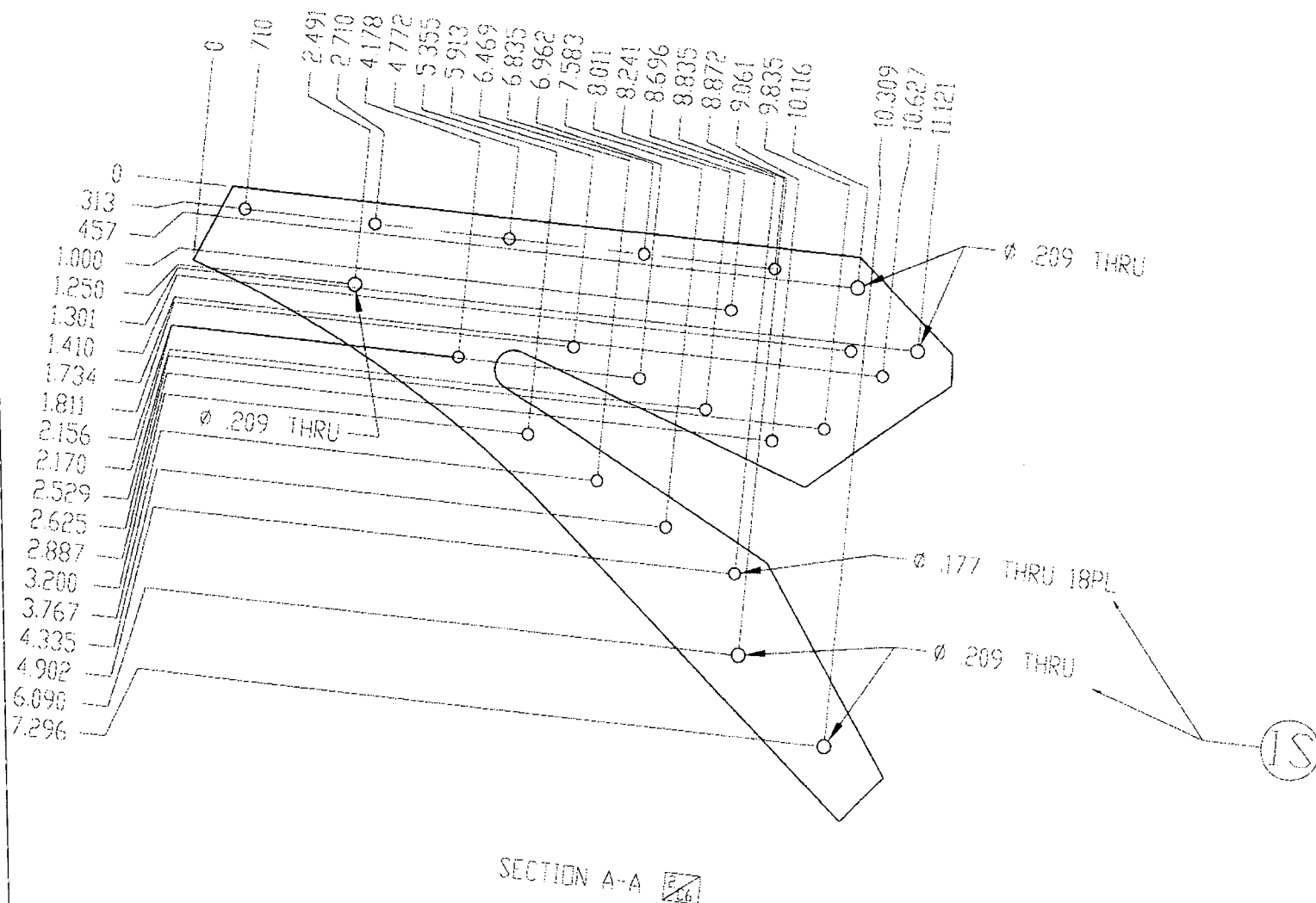
ENGINEERING CHANGE NOTICE NO. 02196		SHEET 1 OF 2	
DWG NO. 646.3300	REV: N/C	PREPARED BY S. HUFF	DATE: 01/05/09
DWG TITLE: UPPER CUTTER ASSY		EFFECT ON DWG ☐ INC. ☒ UNINC.	
APPROVED BY: ENGR <i>[Signature]</i>	MFG: <i>[Signature]</i>	QC: <i>[Signature]</i>	EFF: NEXT ORDER
REASON: REMOVED RIVETS IN FAVOR OF ADDITIONAL SCREWS <i>[Signature]</i>			
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE			

SHEET 1, VIEW 646.3301, IS:



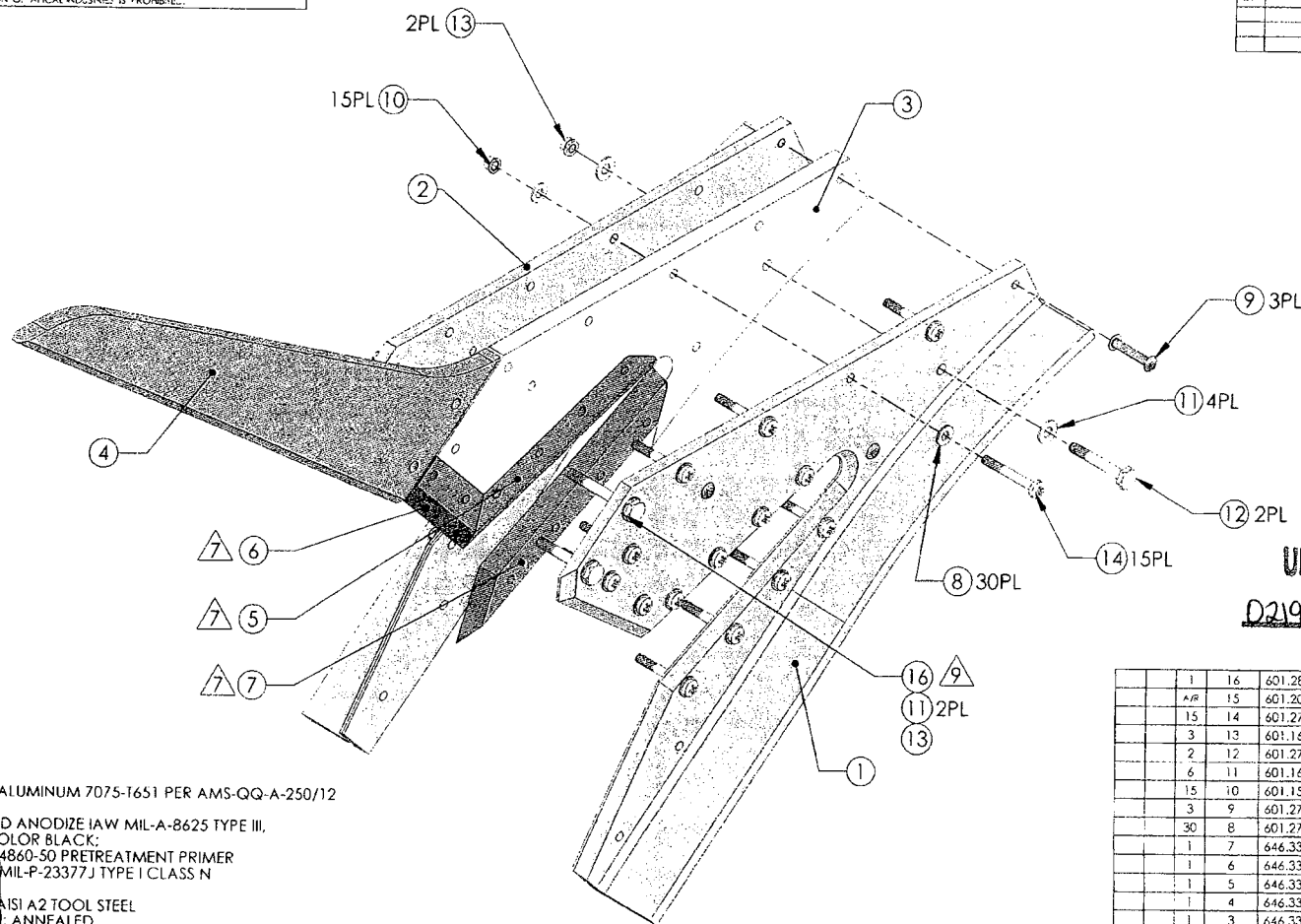
14	R	601.2765	18	SCREW	MS27039-0819
10	R	601.1541	18	LOCKNUT	MS21042L08
9	D	601.2766	3	RIVET	MS20470AD5-18
8	R	601.2764	36	WASHER	NAS1149FN832P
			3301		
F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION
DOCUMENTS EFFECTED:				☐ MDL ☒ INSTALL INSTRUC ☒ ICA ☐ FMS ☒ BOM	CHANGE CATEGORY ☐ MAJOR ☒ MINOR
				DER REVIEW REQUIRED ☐ YES ☒ NO	

SHEET 3, SECTION VIEW A-A, IS:



PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION

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UNINCORPORATED ECN(S)

02196, 03724, 04765

NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER PRIME IAW MIL-P-23377J TYPE I CLASS N
- 3 MATERIAL: AISI A2 TOOL STEEL
CONDITION: ANNEALED
POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS
- 4 FINISH: PRIME IAW MIL-P-23377J TYPE I CLASS N
- 5 DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED
- 6 IDENTIFY IAW MPP-120
- 7 APPLY F/N 15 AS REQUIRED TO ALL FAYING SURFACES OF F/N 5, 6 & 7 UPON ASSEMBLY
- 8 CUTTING EDGE INTENDED TO BE SHARP, DO NOT BREAK SHARP EDGE
- 9 INSTALL FASTENER FINGER-TIGHT

646.3301
SHOWN EXPLODED

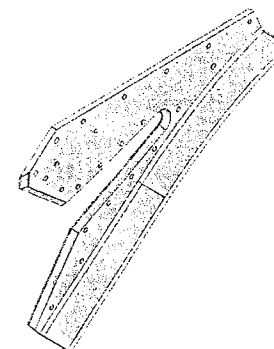
QTY	FIG #	PART #	DESCRIPTION	MATL	SPEC.
1	16	601.2834	BOLT	AMS-146	
15	15	601.2045	RTV. LOCITE 598		
15	14	601.2765	SCREW	MS2703R-QB19	
3	13	601.1624	LOCKNUT	MS2104G15	
2	12	601.2763	BOLT	AMS-124	
6	11	601.1607	WASHER	MS114990332F	
15	10	601.1541	LOCKNUT	MS2104G15	
3	9	601.2766	RIVET	MS20410A-D5-15	
30	8	601.2764	WASHER	MS114990332F	
1	7	646.3316	BLADE	AMS-146	AMS-146
1	6	646.3315	BLADE	AMS-146	AMS-146
1	5	646.3314	BLADE	AMS-146	AMS-146
1	4	646.3313	UPPER GUIDE	AMS-146	AMS-146
1	3	646.3312	CENTER PLATE	AMS-146	AMS-146
1	2	646.3311	RH HALF	AMS-146	AMS-146
1	1	646.3310	LH HALF	AMS-146	AMS-146
1	1	646.3301	UPPER CUTTER ASSY		
1	1	646.3301	UPPER CUTTER ASSY		
QTY	FIG #	PART #	DESCRIPTION	MATL	SPEC.
1	16	601.2834	BOLT	AMS-146	
15	15	601.2045	RTV. LOCITE 598		
15	14	601.2765	SCREW	MS2703R-QB19	
3	13	601.1624	LOCKNUT	MS2104G15	
2	12	601.2763	BOLT	AMS-124	
6	11	601.1607	WASHER	MS114990332F	
15	10	601.1541	LOCKNUT	MS2104G15	
3	9	601.2766	RIVET	MS20410A-D5-15	
30	8	601.2764	WASHER	MS114990332F	
1	7	646.3316	BLADE	AMS-146	AMS-146
1	6	646.3315	BLADE	AMS-146	AMS-146
1	5	646.3314	BLADE	AMS-146	AMS-146
1	4	646.3313	UPPER GUIDE	AMS-146	AMS-146
1	3	646.3312	CENTER PLATE	AMS-146	AMS-146
1	2	646.3311	RH HALF	AMS-146	AMS-146
1	1	646.3310	LH HALF	AMS-146	AMS-146
1	1	646.3301	UPPER CUTTER ASSY		
1	1	646.3301	UPPER CUTTER ASSY		

APICAL INDUSTRIES

2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

UPPER CUTTER ASSY

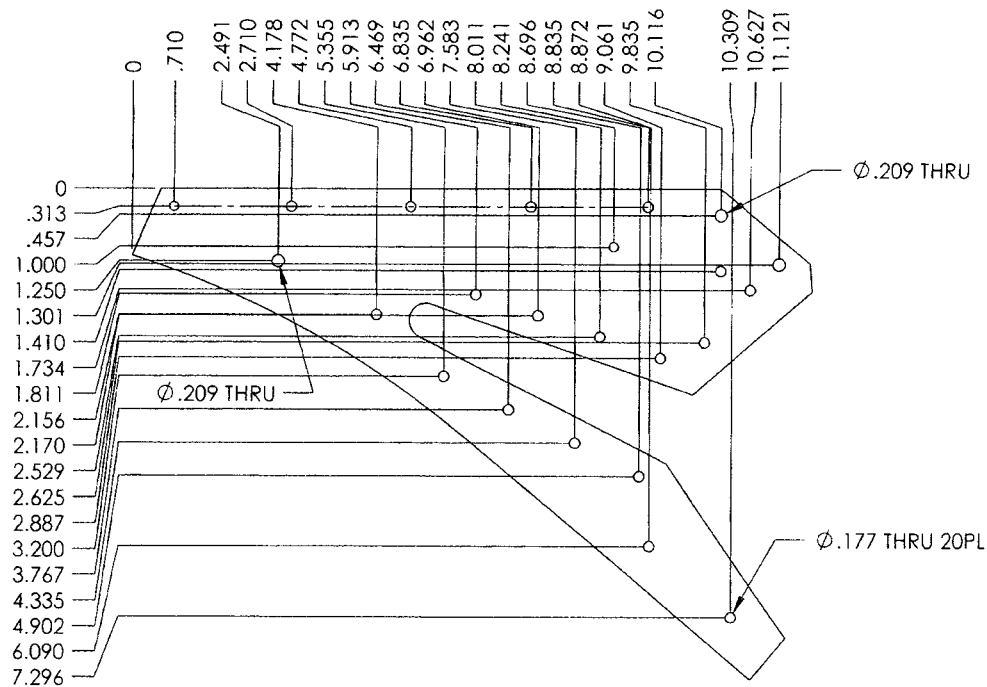
SHEET 1 OF 8

[illegible]

646.3310 SHOWN
646.3311 OPPOSITE

[illegible]

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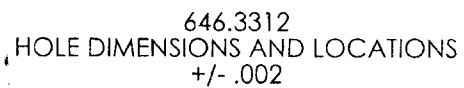


SECTION B-B

SECTION A-A

ORIGINAL DATE 1/14/2011 08:30:00		APICAL INDUSTRIES	
DRAWN BY: C. REEDER		2608 TEMPLE HEIGHTS DR.	
CHECKED BY: P. SPANCO		OCEANSIDE, CA. 92056-3512 (760)724-5300	
DESIGNED BY: J. REEDER		UPPER CUTTER ASSY	
COUNTRYPART NO.		REV. 07/10/16	646.3300
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1. FRACTIONS DECIMALS IN. 2. PLACES DECIMALS IN. 3. ANGLES 2.5°		SCALE NONE	SHEET 3 OF 8

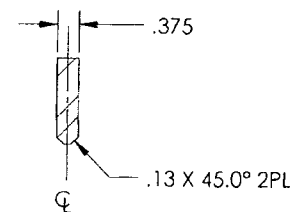
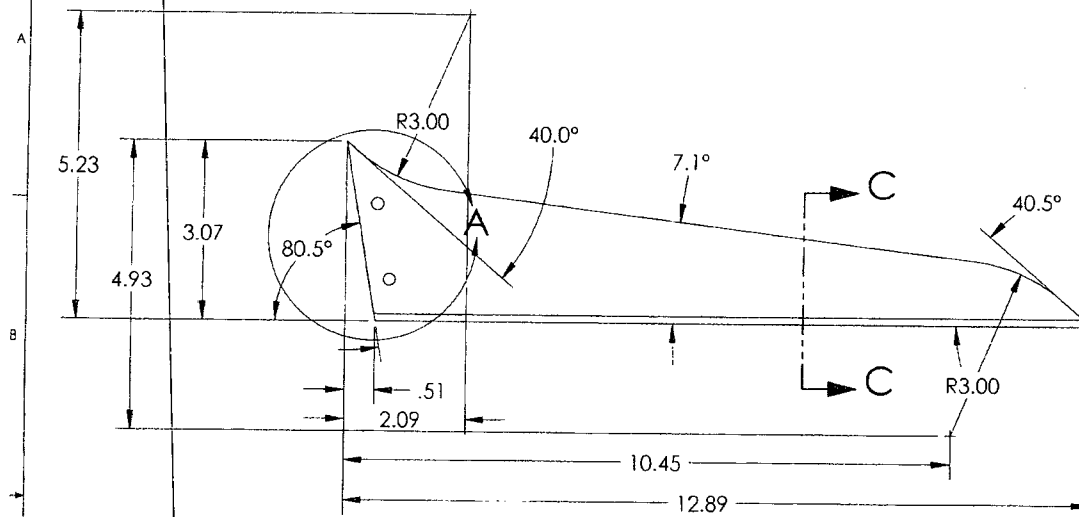
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



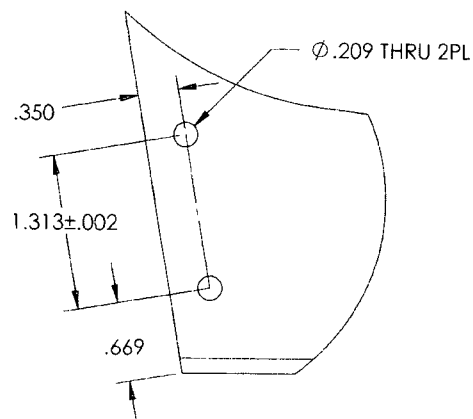
QUANTITY DATE 10000 10-15-78 20.700 CONCRETE 5.000 10-15-78 5.000 10-15-78 5.000 10-15-78 5.000 10-15-78 CONTRACT NO.	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300
UPPER CUTTER ASSY	
10000 10-15-78 20.700 CONCRETE 5.000 10-15-78 5.000 10-15-78 5.000 10-15-78 5.000 10-15-78 CONTRACT NO.	SEE CAGE CODE 646.3300 SCALE NONE SHEET 1 OF 8

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

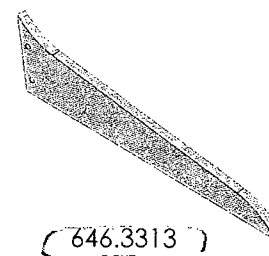
REV	DESCRIPTION	DATE	APPROVED



SECTION C-C



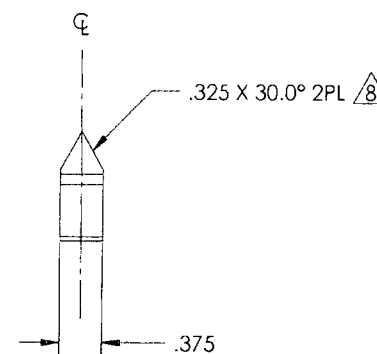
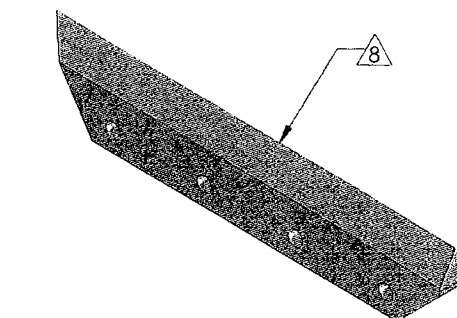
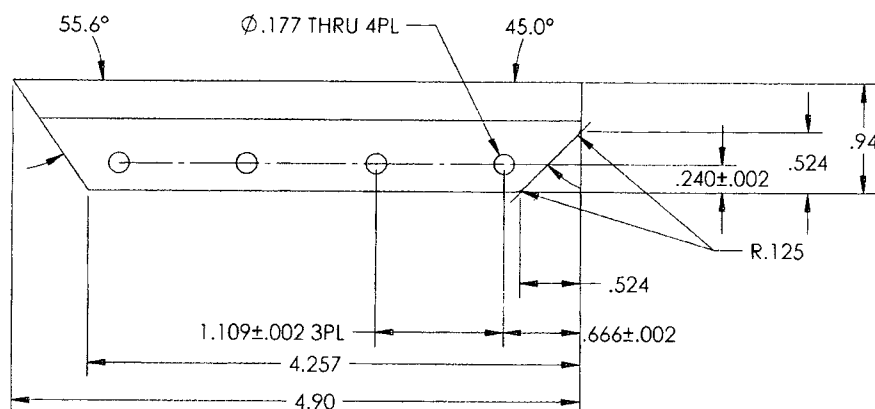
DETAIL A



ORIGINAL DATE: 12-10-1998 DESIGNED BY: J. H. H. / J. H. H. DRAWING APPROVAL: J. H. H. / J. H. H. CHECKED BY: J. H. H. / J. H. H.		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DIMENSIONS UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1. FRACTIONS: ±.001 2. DECIMALS: ±.001 3. WHOLE: ±.001		SHEET: 8 DWG NO: 646.3300 SCALE: NONE	REV: N/C SHEET: 5 OF 8

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

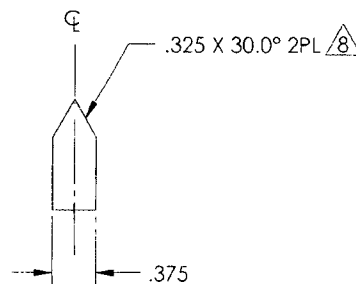
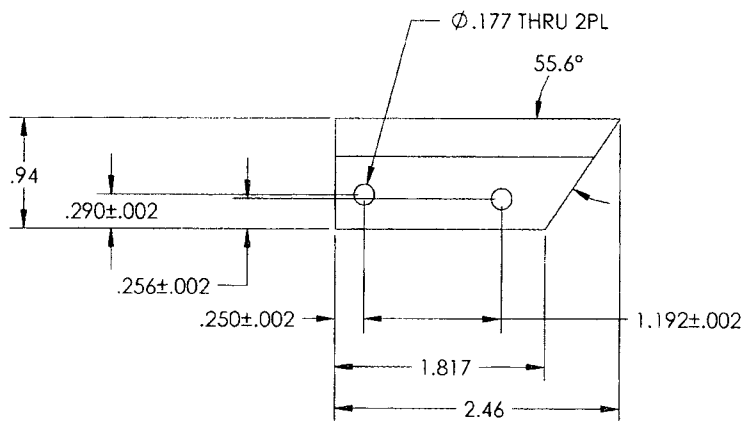
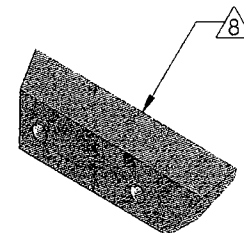


646.3314

ORIGINAL DATE 08-26-08		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300		
DRAWN BY S. HUBB	CHECKED BY P. RFA VC			
DRAWING APPROVED BY P. BRAYO	REVISIONS			
COMPARISON				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE FRACTIONAL DECIMALS ±.01 ANGLES ±.5°		SET CAGE CODE B 07M16	DWG. NO. 646.3300	REV N/C
SCALE NONE		SHEET 6 OF 8		

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

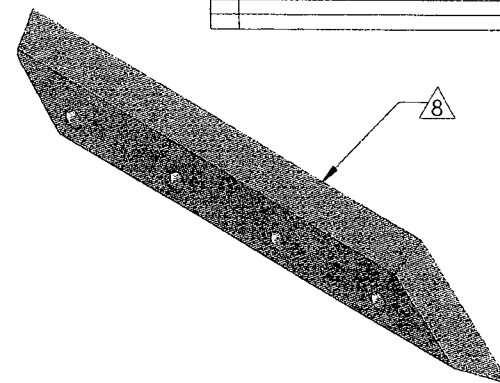


646.3315

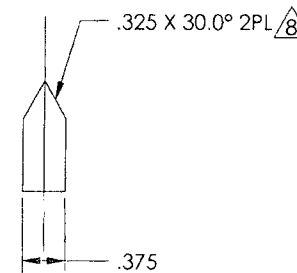
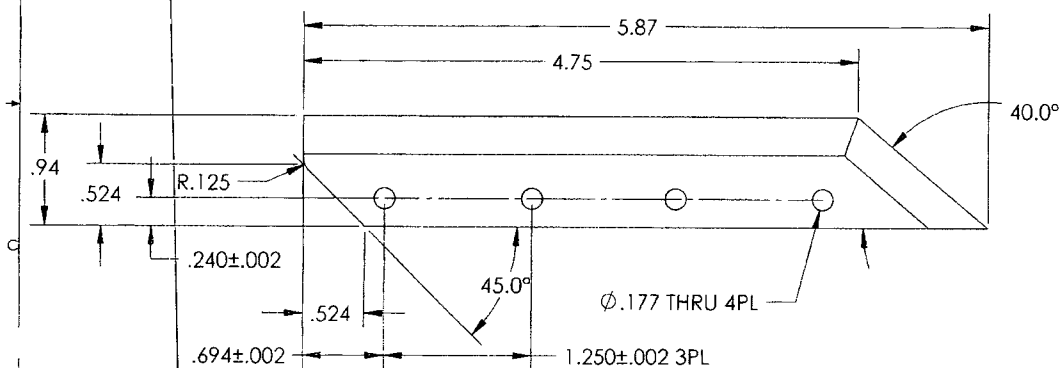
ORIGINAL DATE 08-20-08 DRAWN BY S. HUI DRAWING APPROVAL P. BRAVO 08-26-08 CONTRACT NO.		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE 3 PLACE DECIMALS FOR ANGLES ± .5°		SEE FIG. CODE B 07M26	SHEET NO. 646.3300 PREP N/C
SCALE NONE		SHEET 7 OF 8	

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REVISION			
REV.	DESCRIPTION	DATE	APPROVED



8



646.3316

ORIGINAL DATE 08-20-08		APICAL INDUSTRIES	
DRAWN BY S. HUFF		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY M. BRAVO		UPPER CUTTER ASSY	
DRAWING APPROVAL P. BRADY		SCALE: NONE	SHEET 2 OF 8
CONTRACT NO.		DATE CODE B 07M16	DWG. NO. 646.3300
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES		REV. H/C	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO32124**

Purchase Order Date 4/21/2016
PO Print Date 4/25/2016

Page Number 2 of 4

Order From :
A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

VC-ATG001

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone

613-446-4544

Ship To Contact

Ship To Phone

Ship Via:

Ship Acct:

VENDOR'S TRUCK

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

FCA - (Free Carrier)

Line Total:

\$5.75

4

144277

647.3916 DEFLECTOR
REV. C

4/28/2016

8.00

\$18.10

\$144.80

Yes

4/28/2016

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE I CLASS N

Line Total:

\$144.80

5

141020

646.3313 UPPER GUIDE
REV. N/C

4/25/2016

18.00

\$13.10

\$235.80

Yes

4/25/2016

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE I CLASS N

Line Total:

\$235.80

6

142825

D2348 WEARPLATE
REV. C

4/26/2016

14.00

\$0.95

\$13.30

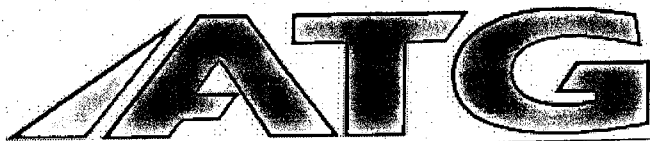
Yes

4/26/2016

FINISH: BLACK ANODIZE AS PER MIL-A-8625F TYPE I OR IB / IC / II / IIB, CLASS 2

Note:

4/25/2016



INDUSTRIES INC.

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 911598

Date: 26-Apr-16

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

CHANTAL LAVOIE
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
Quantity	Description		
	PLEASE REFERENCE THE PACK LIST NUMBER ON ALL CORRESPONDENCE TO THIS SHIPMENT. IF YOU HAVE ANY QUESTIONS, PLEASE CALL AT (613) 446-4544.		
2 ea	Part: D5046-043 CO-PILOT Job: 19457	Rev: B PO: PO32124	Line: 1
1 ea	Part: D5155-043 CO-PILOT Job: 19458	Rev: B PO: PO32124	Line: 2
1 ea	Part: D5155-045 CO-PILOT Job: 19459	Rev: B PO: PO32124	Line: 3
8 ea	Part: 647.3916 DEFLECTOR Job: 19460	Rev: C PO: PO32124	Line: 4
18 ea	Part: 646.3313 UPPER GUIDE Job: 19461	Rev: N/C PO: PO32124	Line: 5
DATE: <u>4 Pri / 26, 2016</u>			
CERTIFIED SIGNATURE: <u>[Signature]</u>			
RECEIVER SIGNATURE: _____			
Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt.			
CERTIFICATE OF CONFORMANCE			
A.T.G. INDUSTRIES INC. CERTIFIES THAT ALL ITEMS IN THIS SHIPMENT CONFORM TO			

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556



Pack List

Number: 911598

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To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

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Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via
Quantity	Description	
	REQUIREMENTS.	
	MADE IN CANADA.	
Sd/b 04-26		